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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,091	12/23/2003	Keiji Nishimura	246949US3	8114
22850	7590	11/16/2005		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER VERDIER, CHRISTOPHER M	
			ART UNIT 3745	PAPER NUMBER
DATE MAILED: 11/16/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/743,091

Applicant(s)

NISHIMURA ET AL.

Examiner

Christopher Verdier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3,4,7 and 8 is/are allowed.
- 6) ☒ Claim(s) 1,2,5,6 and 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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Applicant's amendment dated August 19, 2005 has been carefully considered but is non-persuasive. The specification has been amended to correct the informalities set forth in the first Office action. The claims have been amended to adopt the examiner's suggested claim language set forth in the first Office action. The claims have been amended to overcome the informalities and the rejections under 35 USC 112, second paragraph as set forth in the first Office action. Correction of the above matters is noted with appreciation.

Applicants' arguments that claim 1 has been amended such that it is no longer anticipated by Hendley 4,872,812, Herman 6,786,696, and Grover 6,354,803 are persuasive. However, amended claim 1 contains new matter, and is unpatentable over Herman 6,786,696 in view of Jones 6,855,033.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-2, 5-6, and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1, line 12 has been amended to recite that the front engagement member has a substantially planar front engagement face (27f). There is no antecedent basis in

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the original specification for the front engagement face being substantially planar, because use of the term “substantially” would include variations where the front engagement face is not exactly planar, and this encompasses new matter. Claim 1, lines 17-18 have been amended to recite that the front wall (Wf) surrounding a front side-edge portion of the front engagement member forms at least one half of a circular shape. There is no antecedent basis in the original specification for the front wall forming at least one half of a circular shape, because the specification does not give any value of the extent of the front wall, and the term “at least one half of a circular shape” would include values of circular shapes such as a full circle, and this encompasses new matter. Claim 1, line 20 has been amended to recite that the rear engagement member has a substantially planar rear engagement face (29f). There is no antecedent basis in the original specification for the rear engagement face being substantially planar, because use of the term “substantially” would include variations where the rear engagement face is not exactly planar, and this encompasses new matter. Claim 1, lines 24-25 have been amended to recite that the rear wall (Wr) surrounding a rear side-edge portion of the rear engagement member forms at least one half of a circular shape. There is no antecedent basis in the original specification for the rear wall forming at least one half of a circular shape, because the specification does not give any value of the extent of the rear wall, and the term “at least one half of a circular shape” would include values of circular shapes such as a full circle, and this encompasses new matter.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herman 6,786,696 in view of Jones 6,855,033. Herman (see the annotated figure at the end of this paragraph) discloses a turbine blade 10 substantially as claimed, to be installed into an engaged member 28 of a turbine disk 30 of an aircraft engine comprising a blade 10, one side of which having a convex suction surface and the other side of which having a concave pressure surface, a platform 20 on a hub side of the blade, a recess A being formed on one side of the platform, a front seal fin B formed protruding forward at the front end of the platform, and a rear seal fin C formed protruding backward at the back end of the platform, an engagement member 18 on the hub side of the platform, the engagement member having an engagement face 26 which is able to be engaged with the engaged member 28, a front engagement member D in the vicinity of a base portion of the front seal fin, the front engagement member having a substantially planar front engagement face able to engage with a front locating portion of a jig to be used for grinding, and the front engagement face located back from a virtual plane including the one side of the platform; a front wall E in the vicinity of the base portion of the front seal fin, the front wall surrounding a front side-edge portion of the front engagement member, a rear engagement member F in the vicinity of a base portion of the rear seal fin, the rear engagement member having a substantially planar rear engagement face able to engage with a rear locating portion of the jig, and the rear engagement face located back from the virtual plane, and a rear wall G in the vicinity of the base portion of the rear seal fin, the rear wall surrounding a rear side-edge portion

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of the rear engagement member, wherein an end face of the front wall and an end face of the rear wall are respectively configured to be coplanar with the virtual plane. The front engagement face and the rear engagement face are respectively configured to be substantially parallel to the longitudinal direction of the engagement member 18. The engaged member is a female dovetail 28 and the engagement member is a male dovetail 26. The recitation in claim 1, line 5 of the platform integrally molded on a hub side of the blade, in claim 1, lines 10-11 of the engagement member integrally molded on the hub side of the platform, in claim 1, lines 12-13 of the engagement face being formed by grinding, in claim 1, lines 13-14 of the front engagement member integrally molded in the vicinity of the base portion of the front seal fin, in claim 1, lines 19-20 of the front wall integrally molded in the vicinity of the base portion of the front seal fin, in claim 1, lines 22-23 of the rear engagement member integrally molded in the vicinity of a base portion of the rear seal fin, and in claim 1, lines 27-28 of the rear wall integrally molded in the vicinity of the base portion of the rear seal fin, are product-by-process limitations and do not distinguish over Herman. Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product-by-process claim does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). The recitation in claim 1, lines 15-16 of the front engagement member front engagement face able to engage with a front locating portion of a jig to be used for the grinding, and the recitation in claim 1, lines 24-25 of the rear engagement member rear engagement face able to engage with a rear locating portion of the jig

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are recitations of intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963).

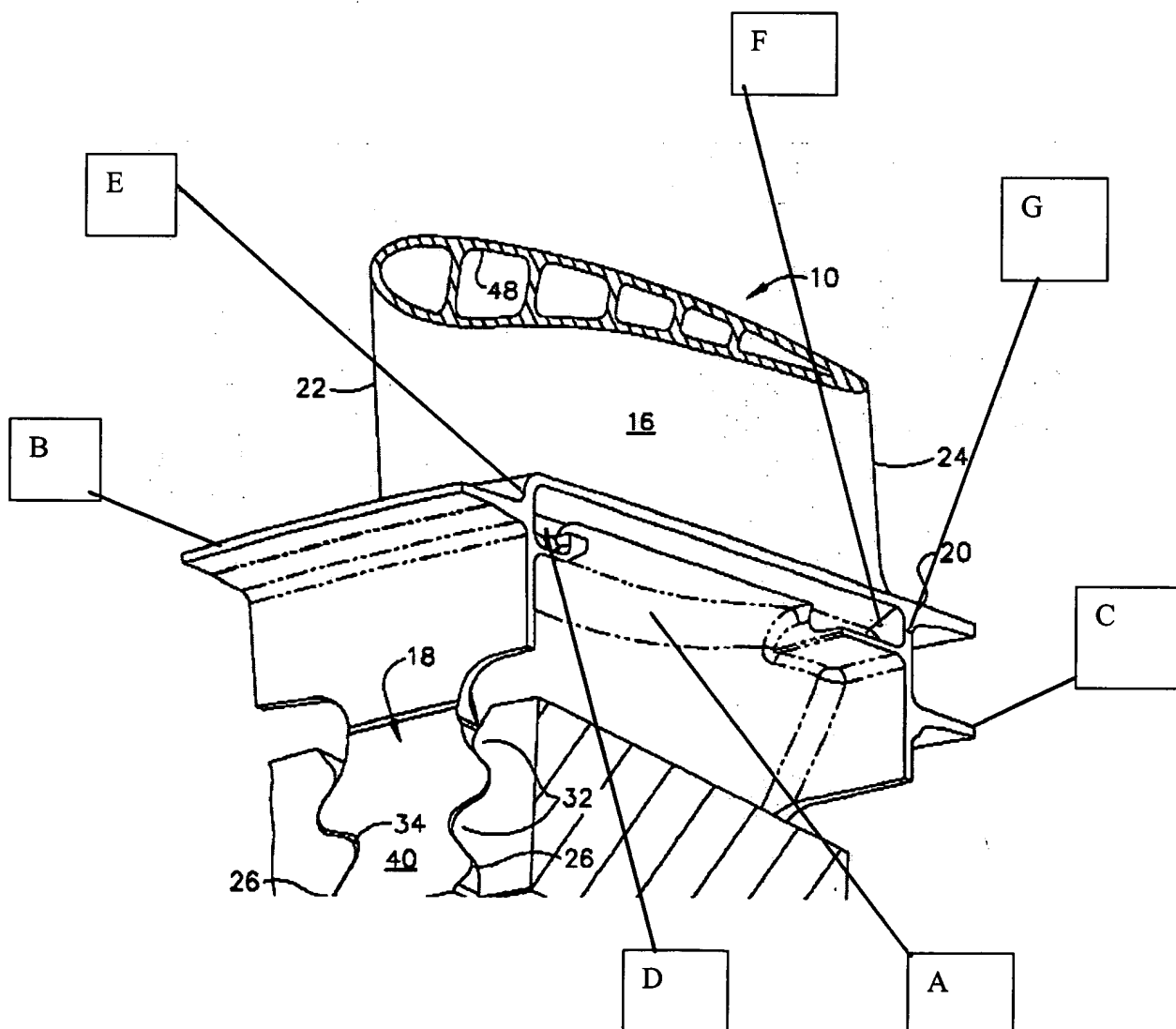
However, Herman does not disclose that the front wall E surrounding the front side-edge portion of the front engagement member forms at least one half of a circular shape, and does not disclose that the rear wall G surrounding the rear side-edge portion of the rear engagement member forms at least one half of a circular shape.

Jones 6,855,033 (figures 2 and 7) shows a turbine blade having an unnumbered front wall below 56 and located on platform 54, with the wall forming at least one half of a circular shape, for the inherent purpose of minimizing stress concentration at the front wall of the platform.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the turbine blade of Herman such that the front wall E surrounding the front side-edge portion of the front engagement member forms at least one half of a circular shape, as taught by Jones, for the purpose of minimizing stress concentration at the front wall of the platform. With regard to the recitation of the rear wall surrounding the rear

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side-edge portion of the rear engagement member forming at least one half of a circular shape, this is a duplication of a known part for a known function. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form the turbine blade of Herman such that the rear wall G surrounding the rear side-edge portion of the rear engagement member forms at least one half of a circular shape, for the purpose of minimizing stress concentration at the rear wall of the platform, as a duplication of a known part for a known function, since it has been held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).





Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herman 6,786,696 and Jones 6,855,033 as applied to claims 1 and 2, respectively above. The modified turbine blade of Herman shows all of the claimed subject matter except for each of the front engagement face and the rear engagement face has a recess depth of less than or equal to 0.7 mm.

The recitation of the recess depth being less than or equal to 0.7 mm is deemed to be a matter of choice in design. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to select the depth of the recesses in the modified turbine blade of Herman to be a specific value, such as less than or equal to 0.7 mm, for the purpose of accommodating for various space requirements in the blades of the turbine.

***Allowable Subject Matter***

Claims 3-4 and 7-8 are allowed.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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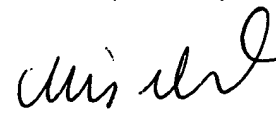
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.  
November 9, 2005

  
Christopher Verdier  
Primary Examiner  
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